

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Niagara Falls Boulevard Radiological Site - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region II

Subject: POLREP #2
Niagara Falls Boulevard Site Removal Assessment
Niagara Falls Boulevard Radiological Site
A23Q
Niagara Falls, NY
Latitude: 43.0965960 Longitude: -78.9520670

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From: Eric Daly, On-Scene Coordinator

Date: 8/28/2015

Reporting Period: 07/28/2015 through 08/28/2015

1. Introduction

1.1 Background

Site Number:	A23Q	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Assessment
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:		Start Date:	
Demob Date:		Completion Date:	
CERCLIS ID:	NYN000206699	RCRIS ID:	
ERNS No.:		State Notification:	
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Removal Assessment and Removal Action

1.1.2 Site Description

The 9540 Niagara Falls Boulevard site (CERCLIS ID NYN000206699), hereinafter referred to as "the NFB site" or "the site", is located in a mixed commercial and residential area of Niagara Falls, New York.

The site consists of two parcels, namely 9524 and 9540 Niagara Falls Boulevard. This site encompasses approximately 2.53 acres. Currently, the 9524 Niagara Falls Boulevard property contains a bowling alley and an asphalt parking lot; the 9540 Niagara Falls Boulevard property contains a vacant building and an asphalt parking lot. The properties are bordered to the north by a wooded area; to the east by a church; to the south by Niagara Falls Boulevard, beyond which is a residential area; and to the west by a hotel and residential area.

In 1978, the U.S. Department of Energy conducted an aerial radiological survey of the Niagara Falls region and found more than 15 properties having elevated levels of radiation above background levels. It is believed that, in the early 1960s, slag from the Union Carbide facility located on 47th Street in Niagara Falls was used as fill on the properties prior to paving. The Union Carbide facility processed ore containing naturally-occurring high levels of uranium and thorium to extract niobium. The slag contained sufficient quantities of uranium and thorium to be classified as a licensable radioactive source material. Union Carbide subsequently obtained a license from the Atomic Energy Commission, now the Nuclear Regulatory Commission, and the State of New York; however, the slag had been used as fill throughout the Niagara Falls region prior to licensing. Based on the original survey and subsequent investigations, it is believed that the radioactive Union Carbide slag was deposited on the NFB site.

On June 16, 2015, OSC Daly was assigned as the lead on-scene coordinator for Niagara Falls Boulevard Radiological Site.

1.1.2.1 Location

9524-9540 Niagara Falls Boulevard, Niagara Falls, NY

1.1.2.2 Description of Threat

Radioactive contamination

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

In September/October 2006 and May 2007, NYSDEC conducted radiological surveys of the interior and exterior of both properties on several occasions using both an Exploranium-135 and Ludlum 2221 detectors. With the exception of an office area and storage space at 9540 Niagara Falls Boulevard that was constructed after the original building directly on top of the asphalt parking lot, interior radiation levels were relatively low. The highest reading in the newer area was 115 $\mu\text{R/hr}$; elsewhere throughout the building, radiation levels generally ranged between 10 and 20 $\mu\text{R/hr}$. Exterior readings taken at waist height generally ranged between 10 and 350 $\mu\text{R/hr}$, while the maximum reading of 600 $\mu\text{R/hr}$ was recorded on contact (i.e., at the ground surface). At a fenced area behind the building located at 9540 Niagara Falls Boulevard, waist-high readings ranged between 200 and 450 $\mu\text{R/hr}$, and on-contact readings ranged between 450 and 750 $\mu\text{R/hr}$. Elevated readings were also observed on the swath of grass between the 9524 Niagara Falls Boulevard property and the adjacent property to the west that contains a hotel, and in the marshy area beyond the parking lot behind the buildings. Two biased samples of slag were collected from locations that exhibited elevated static Ludlum detector readings: one sample was collected from an area of loose blacktop that indicated readings of 515,905 cpm on the Ludlum detector, and one slag sample was collected in the marshy area that indicated readings of 728,235 cpm on the Ludlum detector.

During a reconnaissance performed by the NYSDOH and NYSDEC on July 9, 2013, screening activities showed radiation levels at 200 $\mu\text{R/hr}$ with a hand-held PIC unit around an area of broken asphalt and 500 $\mu\text{R/hr}$ from a soil pile containing slag at the NFB site. Readings over 600,000 cpm were recorded with a sodium iodide 2x2 scintillation detector from the soil and slag pile.

On September 10, 2013, WESTON conducted a gamma radiation screening of the 9524 Niagara Falls Boulevard property using a Ludlum 2221 Scaler Ratemeter. On December 4–5, 2013, further radiological survey information was obtained from the 9524 and 9540 Niagara Falls Boulevard properties, as well as the church property located further east of the two site parcels. The highest gamma radiation screening results were recorded from the exposed soil area in the rear, northern portion of the 9540 Niagara Falls Boulevard property.

On December 5–7, 2013, WESTON documented the areas of observed contamination at the NFB site. The areas of observed contamination were delineated by measuring the gamma radiation exposure rates, and determining where the gamma radiation exposure rate around the source equals or exceeds two times the gamma radiation at site-specific background rates. The areas of observed contamination are defined by site-attributable gamma radiation exposure rates, as measured by a survey instrument held 1 meter above the ground surface, which equal or exceed two times the site-specific background gamma radiation exposure rate. At the NFB site, an area of approximately 168,832 ft² was found to have gamma radiation levels which exceed two times the background measurement of 8,391 cpm. PIC data were also collected at several points to confirm the boundary.

On December 11, 2013, WESTON collected a total of 16 soil samples (including one environmental duplicate sample) and three slag samples from fifteen boreholes advanced throughout the NFB site and the First Assembly Church property located directly adjacent to the east/northeast of the site property, using hollow-stem auger drilling methods. The two soil samples collected on the First Assembly Church property are to document background conditions. At each sample location, soil samples were collected directly beneath slag; at locations where slag was not present, the soil sample was collected at the equivalent depth interval.

The soil samples were analyzed for metals by inductively coupled plasma (ICP) technique and mercury by manual cold vapor technique in accordance with SW-846 Method 6010C and 7471B, respectively. In addition, soil and slag samples were analyzed for isotopic thorium and isotopic uranium by alpha spectrometry according to DOE method A-01-R, and radium-226 and radium-228 by gamma spectrometry according to DOE Method GA-01-R. Analytical results indicate concentrations of radionuclides found in the slag and soil to be significantly higher than at background conditions (i.e., greater than 2x background concentrations).

On April 28, 2014, EPA Contractor personnel collected radon and thoron concentration measurements from locations on and in the vicinity of the NFB site. At the selected locations in background areas, above the source material, and off the source area, radon and thoron concentration measurements in pCi/L were collected with RAD7 radon detectors. The radon and thoron measurements were collected at heights of one meter above the ground surface. The measurements included uncertainty values, which were taken into account to calculate adjusted concentrations for evaluation of observed release in the air migration pathway. There were no radon or thoron concentrations that exceeded the site-specific background, nor were there any adjusted concentrations that equaled or exceeded a value two standard deviations above the mean site-specific background concentration for that radionuclide in that type of sample (i.e., there is no evidence of an observed release to air from site sources).

USEPA Pre-Remedial Program performed an assessment at the Niagara Falls Boulevard Site (NFB) in 2013-2014. Based on the Pre-Remedial Evaluation, the site did not meet the minimum criteria necessary to be placed on EPA's "National Priorities List", a list of hazardous waste sites in the U.S. which are eligible for long-term cleanup financed under the federal Superfund program. However, it was subsequently determined that material contaminated with radiation was located beneath the asphalt parking lot shared by the bowling alley and a building supply center. EPA determined that the Agency would further assess the site to determine if an action under EPA's short term, or "removal" program was warranted.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

USEPA Pre-Remedial Program performed an assessment at the Niagara Falls Boulevard Site (NFB) in 2013-2014. Based on the Pre-Remedial Evaluation, the site did not meet the minimum criteria necessary to be placed on EPA's "National Priorities List", a list of hazardous waste sites in the U.S. which are eligible for long-term cleanup financed under the federal Superfund program. However, it was subsequently determined that material contaminated with radiation was located beneath the asphalt parking lot shared by the bowling alley and a building supply center. EPA determined that the Agency would further assess the site to determine if an action under EPA's short term, or "removal" program was warranted.

On June 16, 2015, OSC Daly was assigned as the lead on-scene coordinator for Niagara Falls Boulevard Radiological Site.

On July 13, 2015-July 17, 2015, OSC Daly, OSC Bellis and Weston mobilized at the NFB Site to continue assessment activities. The tasks included:

- Grid out all survey areas within the two buildings on-site
- Gamma delineation with two separate instruments (Ludlum 2241/Fluke PIC) inside the buildings.
- RAD 7 Radon/Thoron survey within the buildings
- Gamma survey and RAD 7 survey at designated outside areas
- SAM 940 spectrums were collected in areas that exhibited elevated gamma readings.
- OSC coordination tasks with
 - o Owner/operator of Site
 - § There are two operators at this site
 - o Public Affairs
 - o Legal Staff

Preliminary draft results indicate that there are no elevated gamma or radon/thoron readings within the occupied spaces of one building at the site. However, the second building exhibited some "hot spots" or defined areas that had elevated gamma readings. These areas appear to be portions of the building that were additions to the original building. Meaning, the construction of the additions occurred after the contaminated fill was in place and therefore, the radioactive material is located below the concrete slab of these sections.

On August 10, 2015-August 14, 2015, OSCs, Health Physicist and Weston returned to NFB Site to perform the following tasks:

- Gamma survey of the outside property with two separate instruments (Ludlum 2241/Fluke PIC)
- Radon Canister Sampling within both buildings at the site.
- Geo Probe Soil Boring Sampling at specific points along the property that were not assessed by the Pre-Remedial Program.
- RAD 7 Radon/Thoron survey at designated indoor areas as well as at all Soil Boring Sampling points.
- Reuter Stokes HPIC survey at designated indoor areas as well as at all Soil Boring Sampling points.
- Radiological Swipe Samples were taken at designated doorways and areas of interest inside both buildings.

2.1.2 Response Actions to Date

No Response Actions

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

PRPs are being investigated by USEPA Enforcement Team

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

2.2 Planning Section

2.2.1 Anticipated Activities

All data is being compiled by OSCs and Weston for presentation to technical team.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

Action Memo finalization

2.2.2 Issues

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

2.4.1 Narrative

Assessment funding has been utilized to date

2.5 Other Command Staff

2.5.1 Safety Officer

2.5.2 Liaison Officer

2.5.3 Information Officer

Mike Basile is the lead Public Affairs Official for the Site

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

NYS DEC

NYS DOH

4. Personnel On Site

OSC Daly
Health Physicist Lyndsey Nguyen
4 Weston Technicians

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.